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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/644,737 | 08/21/2003 | Yoshiki Sugeta | 2003-1188A | 6203 |

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WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

| EXAMINER | |
|---|---|
| TSOY, ELENA | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1762 | |

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/644,737 | SUGETA ET AL. | |
| | Examiner | Art Unit | |
| | Elena Tsoy | 1762 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *08 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1 and 4-7* is/are pending in the application.

4a) Of the above claim(s) *6 and 7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

### *Response to Amendment*

1. Amendment filed on 12/08/2005 has been entered. Claims 2-3 have been cancelled. Claims 1, 4-7 are pending in the application. Claims 6-7 are withdrawn from consideration as directed to a non-elected invention.

### *Election/Restrictions*

2. Applicant's election without traverse of Group I, claims 1, 4-5 in the reply filed on 12/08/2005 is acknowledged.

### *Claim Objections*

3. Objection to claim 1 because of the informalities has been withdrawn due to amendment.

### *Double Patenting*

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Provisional rejection of claims 1, 4-5 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of copending Application No. 10/500,227 has been withdrawn due to amendment.

### *Claim Rejections - 35 USC § 102*

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Chun (US 6,486,058) for the reasons of record set forth in paragraph 11 of the Office Action mailed on 6/09/2005. As was shown in the Office Action mailed on 6/09/2005, Chun discloses that an over-coating agent is polyvinyl alcohol, polyvinylpyrrolidone (claimed water-soluble vinyl polymer), polyethylene glycol, (claimed water-soluble alkyleneglycol-based polymer) (See column 3, lines 61-67), or **mixtures thereof** (See column 4, line 5). In other words, Chun discloses that the over-coating agent is a **mixture** of polyvinyl alcohol with at least one member of the group consisting of polyvinylpyrrolidone (claimed water-soluble **vinyl polymer**), polyethylene glycol, (claimed water-soluble **alkyleneglycol-based polymer**), as required by Amendment.

### *Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 4-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chun (US 6,486,058) for the reasons of record set forth in paragraph 13 of the Office Action mailed on 6/09/2005. As it was shown in the Office Action mailed on 6/09/2005.

***Response to Arguments***

10. Applicants' arguments filed 12/08/2005 have been fully considered but they are not persuasive.

(A) Applicants argue that although Chun (U.S. 6,486,058) list any water-soluble compounds, such as polyvinyl alcohol, polyvinylpyrrolidone, tlrea, etc., for the WASOOM (See column 3, line 58 to column 4, line 11), Chun does not teach or suggest the combination of polyvinyl alcohol with a water-soluble polymer which is at least one member selected from the group consisting of alkylene glycolic polymers, cellulosic derivatives, vinyl polymers and acrylic polymers.

The Examiner respectfully disagrees with this argument. As was shown in the Office Action mailed on 6/09/2005, Chun does disclose that an over-coating agent is polyvinyl alcohol, polyvinylpyrrolidone (claimed water-soluble vinyl polymer), polyethylene glycol, (claimed water-soluble alkyleneglycol-based polymer) (See column 3, lines 61-67), or **mixtures thereof** (See column 4, line 5). In other words, Chun discloses that the over-coating agent is a **mixture** of polyvinyl alcohol with at least one member of the group consisting of polyvinylpyrrolidone (claimed water-soluble **vinyl polymer**), polyethylene glycol, (claimed water-soluble **alkyleneglycol-based polymer**), as required by Amendment.

(B) Applicants argue that in the present invention, using a copolymer of polyacrylate and polyvinylpyrrolidone (Comparative Example 1), or a homopolymer of polyvinyl alcohol (Comparative Exmnple 2) for the over-coating agent, cannot achieve advantageous effects of the present invention (see page 22, line 21 to page 23, line 14 in the present specification).

First of all, 102 rejection over Chun cannot be overcome by showing unexpected results. Secondly, Comparative Examples 1 and 2 compare **copolymers** of PVA and PAA with **homopolymer** of PVA or with a **copolymer** of PVP and PAA. However, claim 1 recites that WASOOM is a copolymer **OR** a **mixture**. There are no comparative examples with mixtures.

(C) Applicants argue that in the present invention, a heating treatment to cause thermal shrinkage of the film of the over-coating agent is preferably done at a temperature that will not cause thermal fluidizing of the photoresist pattern. The temperature that will not cause thermal fluidizing of the photoresist pattern is such a temperature that when a substrate on which the photoresist pattern has been formed but no film of the over-coating agent has been formed is heated, the photoresist pattern will not experience any dimensional changes. In contrast, the resist pattern overcoated with WASOOM (=resist-reflow buffer layer) in Chtm reflows to shrink the size of hole openings. The resist-flow buffer layer of Chun and the over-coating agent of the present invention unobviously differ from each other. Chun does not disclose or suggest the over-coating agent of the present invention.

The Examiner respectfully disagrees with this argument. Chun teaches that heat treatment can be performed at $50^0$C (See column 4, lines 17-20). Clearly, at this low temperature it is hard to believe that resist will reflow.

Moreover, it is noted that the features upon which applicant relies (i.e., absence of reflow) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-142323. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ELENA TSOY
PRIMARY EXAMINER

Elena Tsoy
Primary Examiner
Art Unit 1762

January 11, 2006